

SECTION-B

2. Define transistor signal to noise ratio and noise figure of receiver.
3. Describe the difference between deterministic and random signals.
4. For signal $x(t)$ which is an even signal, show that

$$\int_{-\infty}^{\infty} x(t) dt = 2 \int_0^{\infty} x(t) dt$$

5. Explain thermal and shot noise in detail.
6. Write a short note on Random process.

SECTION-C

7. Determine whether following systems are (i) Memoryless (ii) Stable (iii) Causal (iv) Linear (v) Time Invariant :
 - a) $y(n) = n x(n)$
 - b) $y(t) = e^{x(t)}$
8. State and Derive Parseval's theorem for power signals.
9. Define noise. Explain all types of noise in detail.